

IN THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the Application:

LISTING OF CLAIMS:

Claims 1-7 (Canceled).

8. (Currently amended) ~~The system of claim 7~~ A system comprising:  
a first module including first and second serial bus controllers;  
a first serial bus coupled to the first and second serial bus controllers;  
a second serial bus coupled to the first and second serial bus controllers;  
a second module coupled to the first and second serial buses;  
first and second isolation switches on the first module coupled to the first  
and second buses respectively; and  
logic on the first module for causing the first and second isolation switches  
to open when either the first or second serial bus controller suffers a fault, such  
that the serial buses are isolated from the second module, wherein the logic  
comprises:
- a watchdog timer coupled to the first and second serial bus controllers for monitoring the first and second serial bus controllers to ascertain whether the first or second serial bus controller suffers a fault;
  - a flip-flop coupled to the watchdog timer, the clock input of the flip-flop being driven by the watchdog timer such that when the watchdog timer ascertains that either the first or second serial bus controller has suffered a fault, the clock input of the flip-flop is asserted, causing an output of the flip-flop to be asserted;

the output of the flip-flop coupled to the first and second isolation switches such that when the output of the flip-flop is asserted the first and second isolation switches open.

9. (Original) The system of claim 8 wherein the output of the flip-flop holds its value so that, when the first and second isolation switches open, a cause can be determined as to why the first and second isolation switches opened.

10. (Currently amended) ~~The system of claim 7~~ A system comprising:  
a first module including first and second serial bus controllers;  
a first serial bus coupled to the first and second serial bus controllers;  
a second serial bus coupled to the first and second serial bus controllers;  
a second module coupled to the first and second serial buses;  
first and second isolation switches on the first module coupled to the first and second buses respectively; and  
logic on the first module for causing the first and second isolation switches to open when either the first or second serial bus controller suffers a fault, such that the serial buses are isolated from the second module, wherein the first and second isolation switches power up open.

11. (Currently amended) ~~The system of claim 7 comprising:~~ A system comprising:  
a first module including first and second serial bus controllers;  
a first serial bus coupled to the first and second serial bus controllers;  
a second serial bus coupled to the first and second serial bus controllers;  
a second module coupled to the first and second serial buses;  
first and second isolation switches on the first module coupled to the first and second buses respectively;

logic on the first module for causing the first and second isolation switches to open when either the first or second serial bus controller suffers a fault, such that the serial buses are isolated from the second module;

third and fourth serial bus controllers on the second module;

a third serial bus coupled to the third and fourth serial bus controllers and to the first isolation switches; and

a fourth serial bus coupled to the third and fourth serial bus controllers and to the second isolation switches;

such that when the logic on the first module causes the first and second isolation switches to open, the third and fourth serial buses remain functional.

12. (Original) The system of claim 11 comprising:

third and fourth isolation switches on the second module coupled to the third and fourth serial buses respectively;

the output of the third and fourth isolation switches coupled to outputs of the first and second isolation switches;

logic on the second module for causing the third and fourth isolation switches to open when either the third or fourth serial bus controller suffers a fault, such that the first and second serial buses remain functional.

13. (Original) The system of claim 12 wherein the logic on the second module comprises:

a watchdog timer coupled to the third and fourth serial bus controllers for monitoring the third and fourth serial bus controllers to ascertain whether the third or fourth serial bus controller suffers a fault;

a flip-flop coupled to the watchdog timer, the clock input of the flip-flop being driven by the watchdog timer such that when the watchdog timer ascertains that either the third or fourth serial bus controller has suffered a fault, the clock input of the flip-flop is asserted, causing an output of the flip-flop to be asserted;

the output of the flip-flop coupled to the third and fourth isolation switches such that when the output of the flip-flop is asserted the third and fourth isolation switches open.

14. (Original) A module comprising:

first and second serial bus controllers;  
a first serial bus coupled to the first and second serial bus controllers;  
a second serial bus coupled to the first and second serial bus controllers;  
first and second isolation switches coupled to the first and second serial buses respectively;

logic for causing the first and second isolation switches to open when either the first or second serial bus controller suffers a fault, such that the serial buses are isolated from a second module to which the module to which the module can be coupled.

15. (Original) A computer program product comprising:

first and second serial bus controllers;  
logic for monitoring first and second serial bus controllers;  
logic for controlling first and second isolation switches coupled to first and second serial buses respectively, the first and second serial buses being coupled to the first and second serial bus controllers, the logic for controlling causing the first and second isolation switches to open when either the first or second serial bus controller suffers a fault.

Claims 16-21 (Canceled).

22. (Currently amended) ~~The method of claim 21~~ A method of comprising the steps of:

providing a first module including first and second serial bus controllers;  
coupling a first serial bus to the first and second serial bus controllers;

coupling a second serial bus to the first and second serial bus controllers;  
coupling a second module to the first and second serial buses;  
coupling first and second isolation switches on the first module to the first  
and second serial buses respectively; and

causing the first and second isolation switches to open when either the  
first or second serial bus controller suffers a fault, such that the serial buses are  
isolated from the second module, wherein the step of causing comprises the  
steps of:

monitoring by a watchdog timer the first and second serial bus controllers  
to ascertain whether the first or second serial bus controller suffers a fault;

when the watchdog timer ascertains that either the first or second serial  
bus controller has suffered a fault, asserting by the watchdog timer the clock  
input of a flip-flop, causing an output of the flip-flop to be asserted;

coupling the output of the flip-flop to the first and second isolation switches  
such that when the output of the flip-flop is asserted the first and second isolation  
switches open.

23. (Original) The method of claim 22 wherein the output of the flip-flop holds  
its value and further comprising the step of determining why the first and second  
isolation switches opened by examining the output of the flip-flop.

24. (Currently amended) ~~The system of claim 24~~ A method of comprising the  
steps of:

providing a first module including first and second serial bus controllers;  
coupling a first serial bus to the first and second serial bus controllers;  
coupling a second serial bus to the first and second serial bus controllers;  
coupling a second module to the first and second serial buses;  
coupling first and second isolation switches on the first module to the first  
and second serial buses respectively; and

causing the first and second isolation switches to open when either the first or second serial bus controller suffers a fault, such that the serial buses are isolated from the second module, wherein the first and second isolation switches power up open.

25. (Currently amended) ~~The method of claim 21 further comprising the steps of:~~ A method of comprising the steps of:

providing a first module including first and second serial bus controllers;  
coupling a first serial bus to the first and second serial bus controllers;  
coupling a second serial bus to the first and second serial bus controllers;  
coupling a second module to the first and second serial buses;  
coupling first and second isolation switches on the first module to the first and second serial buses respectively;

causing the first and second isolation switches to open when either the first or second serial bus controller suffers a fault, such that the serial buses are isolated from the second module;

providing third and fourth serial bus controllers on the second module;  
coupling a third serial bus to the third and fourth serial bus controllers and to the first isolation switches; and

coupling a fourth serial bus to the third and fourth serial bus controllers and to the second isolation switches, such that when the logic on the first module causes the first and second isolation switches to open, the third and fourth serial buses remain functional.

26. (Original) The method of claim 25 further comprising the steps of:

coupling third and fourth isolation switches on the second module to the third and fourth serial buses respectively;

coupling outputs of the third and fourth isolation switches to outputs of the first and second isolation switches;

causing the third and fourth isolation switches to open when either the third or fourth serial bus controller suffers a fault, such that the first and second serial buses remain functional.

27. (Original) The method of claim 26 wherein the step of causing comprises the steps of:

monitoring by a watchdog timer the third and fourth serial bus controllers to ascertain whether the third or fourth serial bus controller suffers a fault;

when the watchdog timer ascertains that either the third or fourth serial bus controller has suffered a fault, asserting by the watchdog timer the clock input of a flip-flop, causing an output of the flip-flop to be asserted;

coupling the output of the flip-flop to the third and fourth isolation switches such that when the output of the flip-flop is asserted the third and fourth isolation switches open.

28. (Original) A method comprising the steps of providing first and second serial bus controllers;

coupling a second serial bus to the first and second serial bus controllers;

coupling first and second isolation switches the first and second serial buses respectively;

causing the first and second isolation switches to open when either the first or second serial bus controller suffers a fault, such that the serial buses are isolated from a second module to which the module to which the module can be coupled.